1977 MOOSEHORN NATIONAL WILDLIFE REFUGE

WOODCOCK CREW REPORT

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INTRODUCTION

This report is a summary of the work and results done during the 1977 field season of the Moosehorn N.W.R. woodcock study. Work was done under the direction of Greg Sepik, PhD. candidate, University of Maine. Crew members included Dan McAuley, research technician and field work assistants Eric Derleth, Randy McCormack, and Peter Tirrell. Tom Dwyer, U.S. Fish and Wildlife Service biologist and his biological technician Scott R. Owens were also present to aid in the capture and banding of woodcock.

Field work began 4 April and ran through 24 August. During the first 6 weeks daily work consisted of putting new mistnets together, placing nets in the major netting fields 1,10,7,39,40,36, cleaning up and/or finishing firewood cuts from the previous year, burning fields 1 and 36, hoeing out traplines, vegetative analysis of singing ground cuts, and location and painting of census route markers. Evening work consisted of running census routes and locating and mistnetting courting male woodcock.

On 23 May two field work assistants arrived and the daily work routine changed. Singing ground cuts were plotted and work begun on some, traplines were put into operation and checked twice daily, vegetative analysis of singing ground cuts was completed, alder analysis and sampling was done, pellet and browse transects were done and alder strip cuts were plotted. Starting 8 June netting and nightlighting of summer fields began.

From mid-July through August work consisted mainly of chainsawing and piling and vegetative analysis of summer fields. Rainy days were spent burning brushpiles.

A typical day started at 8:00 a.m. Two crew members would chainsaw during the morning while the other crew members either laid out plots, did vegetation analysis, or analyzed data in the office. Tom and Scott checked traplines each morning. After lunch break chores were switched, this way a person only chainsawed half a day. Field work ended at 4:00. Traps were then checked after supper usually around 6:30. Between 8:00 and 9:30 summer fields were mistnetted or nightlighted if proper conditions prevailed.

A

Singing Male Mistnetting

Mistnetting of courting males began this year on 4 April. Last year (1976) nets were only placed in the major netting fields and then netted on a weekly rotation. This year in addition to this method, we attempted to capture every bird we heard peenting. When running census routes, the observer tried to locate singing males and determine the direction in which they took off and landed on their courtship flights. Nets were then placed across both flight paths and then netted the same day of the net placement. This technique was very successful.

Results of Singing Male Mistnetting

	New	Return	Total
SY M	11	7	18
ASY M	13	7	20

A. Description of how nightlighting techniques have changed from previous years

In previous years the only data collected when nightlighting was: number of birds caught and the age and sex of each. This year, 1977, the number of flushes i.e. birds flushed but not captured was also noted. A flush was only recorded if the bird flew out of the field. Totaling flush and capture data enabled us to monitor field usage throughout the season. The flush sites of captured birds were also marked with flagging so that distance to nearest cover could be measured at a later time. This was done in order to test the hypothesis that the adult birds would be found closer to the edge because they walked into the roosting fields. Although the data has not been analyzed fully, the results seem to indicate a random distribution of all age classes throughout the field.

Woodcock Trail (Field 36) and Headquarter's (Field 1) were burned on April 18, 1977 in order to rid the fields of shrubs, small trees and maintain blueberry. The burning in Field 1 was successful with the elimination of the undesirable tree species and good blueberry regeneration. In Field 36, the undesirable sweetfern, blackberry and aster has returned.

BRIEF HISTORY OF EACH LINE

A. Number of years in operation (1964-1977 period of documented use)

*1.	Line 1	12 years	(1964-1967,1969-1975)
2.	Line 2	10 years	(1964-1973)
3.	Line 3	10 years	(1964-1973)
*4.	Line 4	13 years	(1964-1975,1977)
*5.	Line 5	14 years	(1964-1977)
*6.	Line 6	7 years	(1964-1966,1971,1974,1976-1977)
7.	Line 7	1 year	(1966)
8.	Line 8	6 years	(1965-1970)
*9.	Line 11	7 years	(1971-1977)
10.	Line 9	2 years	(1965-1966)
11.	Line 12	2 years	(1972,1974)
*12.	Line 15	1 year	(1977)
*13.	Line 16	3 years	(1975-1977)
*14.	Line 76	2 years	(1976-1977)
*15.	Line 77	1 year	(1977)
16.	Line 10	2 years	(1970-1971)

* 1977 Traplines

B. General location of each trapline with respect to vegetation

1. Trapline 1-On the left side of Beaver Trail there are mixed hardwoods on the upper slopes with scattered softwoods. Alders follow along Mahar Brook.

-On the right side there are alders along Mahar Brook; softwoods on the upper slopes

-30% alder; 30% MH, scattered S; 40% softwoods

2. Trapline 4-From traps 4-27 to 4-25 there are predominantly softwoods grading down to alder growth at 4-25. From 4-24 to the 76-2 cut there are softwoods. Across from 76-2 alders predominate with softwoods on the upper slopes. From Mile Bridge Road to the first three traps on the other segment, there are alders with scattered softwoods which grade into softwoods near the last two traps.

-Alders, Alders and scattered S 60%; softwoods 40%

3. Trapline 5-Alders comprise 95% of the trapline with the other 5% composed of scattered softwoods and aspen.

4. Trapline 6-The second half of the trapline is composed of 90% alder and 10% softwoods in the back. The first half of the trapline is 100% alder cover.

5. Trapline 11-From 11-18 to 11-7 alders predominate. From 11-7 to 11-1 MH composed mostly of aspen are the most abundant.

-Alders 50%; MH(aspen) 50%

6. Trapline 15-Alders comprise 95% of trapline with scattered softwoods toward the back.

7. Trapline 16-From 16-1 to 16-3 there are alders; from 16-3 to 16-5 softwoods with a few scattered alders; 16-6 to 16-13 alder cover with scattered softwood thickets; 16-14 to 16-22 alder cover with dense softwoods grading in on the right; 16-22 to 16-23 softwoods

-Alders 85%; softwoods 15%

8. Trapline 76-On the left side there are alders with scattered softwoods; on the right side of Dineen 76-5 to 76-6 are located in softwoods; 76-7 to 76-9 is in alder and wild raisin.

-Alder 85%; softwoods 15%

9. Trapline 77-100% alder cover with scattered hardwoods throughout.

C. Past management in or near each trapline

1. Line 1- The closest management are the 5 strip cuts on South Trail beside Dineen. They were cut in summer 1977.

2. Line 4- Off Mile Bridge road there is singing ground 76-2. Scarification of the site by bulldozer followed cutting.

3. Line 5- In the fall 1973 six strips 25m to 125m long and 10m wide were cut and burned. Uncut strips were 40m wide. In some strips slash was chipped while in others slash was piled.

4. Line 6- Six strips 100m long by 10m wide were cut with the slash piled and burned in the fall. Strip 4 was treated with ammonium sulfamate to retard sprout regeneration. This area was similarly cut by Eldon Clark in 1963. The strips were cut in the summer 1976.

5. Line 11- In the summer 1976 two strips 2 and 5 chains by .5 chain were treated with 2,4-D herbicide to promote alder regeneration.

- In the summer of 1977 a series of similar 2,4-D plots were sprayed on the island of alders in Field 20.
- Nearby, six strips were cut along Line 5 in 1973.

6. Line 15- Closest management are the 4 YCC strip cuts on the Charlotte Road. These strips are of various lengths and .5 chains in width.

7. Line 16- On nearby line 5 as mentioned, six strips were cut in 1973.

- In the spring and summer 1976 throughout the trap-line, various .5 chain wide strips were sprayed with 2,4-D to kill ground vegetation for improved diurnal cover. These strips were run perpendicular to the road.

-In the summer 1977, four strips .5 chain in length were treated with 2,4-D in the canopy to promote alder Regeneration. These strips ran from trap 16-11 to 16-23.

- Nearby, four strips were cut on the Charlotte Road in 1977.

8. Line 76- In the summer 1977, 5 strips .5 chain wide were cut on South Trail beside Dineen. Two strips on the right lead into the field while 3 strips on the left lead to the softwood edge.

-Summer 1977-Dineen was mowed in August in preparation for next year's possible burning.

9. Line 77- No nearby management

D. The affect of weather on trap success

As might be expected, sufficient rainfall increases the soil moisture content of the soil. This results in an increase in earthworm numbers, thereby enhancing the chance for trap success. During periods of drought the moisture content of the soil drops, resulting in a drastic decrease in earthworm numbers and poor trap success.

During June, the later part of May, and the early part of July, moisture conditions were not critical. From the middle or later part of July into August soil moisture started to become a critical factor in the drier portions of the traplines. This resulted in a drop in trap success as seen especially in Line 11.

During the entire month of June, many segments of the traplines were submerged due to heavy rainfall. For example, the first half of trapline 6 and the second half of 16 were under water. In fact, line 6 yielded an 18 inch pickerel. As a result of these rains, many traps became inoperable, thereby decreasing trap success. From another standpoint, this rainfall also helped to maintain moist soil conditions over a longer period and increase trap success on sites with better drainage.

Use of Trained Bird Dogs

Mr. G. A. Amman, retired biologist form Michigan, came to the Moosehorn with his two English setters, Katie and Dolly. The dogs were released and allowed to search likely looking brood cover. These areas included ~~Greg~~ VOSE POND ~~Sepik~~'s ~~study~~ area, edges of courting and summer fields, along Washington County Vocational Technical Institute strip cuts, near firewood and alder cuts and refuge roads. When a dog went on point, Andy and whoever was assisting would then search the area near the dogs trying to pinpoint the hen woodcock and/or the chicks. If possible the hen was captured with a hand-held net and after she was either captured or flushed the chicks were gathered up, banded, weighed, and bill lengths measured. If the female was not captured, a portable trap was set up and a sack with the chicks in it was placed in the center of the trap to lure the hen in. Brood location was marked with a flag and later mapped.

Table : Captures Using Bird Dogs

New Birds		Returns	
SY F	4	SY F	1
ASY F	9	ASY F	6
HY M	19		
HY F	18		
HY ?	45		

Table :Yearly Summary (Baring) 1964-1977

Year	New	Returns	Repeats	Total
1964	221	17	110	348
1965	151	25	129	305
1966	249	20	135	404
1967	270	22	99	391
1968	191	24	116	324
1969	297	13	123	433
1970	175	31	86	292
1971	221	23	142	386
1972	335	23	173	531
1973	319	16	97	432
1974	381	30	184	595
1975	280	17	92	390
1976	294	20	122	436
1977	423	44	265	732

Table : 1977 Trapline Analysis

	1	4		5		6		6		11	15	16		76	77
# cells	31	23	28	(36)	48	11	29		30	25	17	24	46	19	14
starting date	15 June	7 July	2 Aug.	15 June		15 June	5 July		6 July	15 June	15 June	15 June	8 July	15 June	15 June
ending date	24 Aug.	2 Aug.	24 Aug.	24 Aug		5 July	6 July		24 Aug.	24 Aug.	8 July	24 Aug.	8 July	24 Aug.	24 Aug.
# birds	19	11	8	(45)	48	1	0		16	17	2	11	25	16	7
# days	71	26	22	71	71	21	1		49	71	71	24	47	71	71
# cell days	2201	598	616	3408 (2556)		231	29		1470	1775	1207	576	2162	1349	994
cell days / bird	115.84	63.89		71.00 (56.80)			101.76			104.41	603.50	76.06		84.31	142.00

MIST NETTING 1977

Field	Date	# Nets	# Birds	# HY	# SY	# ASY	# Birds caught per Net	# Males	# Females
11	6/30	14	7*	7	0	0	0.5	3	3
	7/6	14	4	4	0	0	0.29	2	2
	7/19	14	4	4	0	0	0.29	2	2
	7/26	14	1	1	0	0	0.07	1	0
	8/3	14	4	3	1	0	0.29	2	2
	8/9	14	2	2	0	0	0.14	1	1
	8/16	14	1	1	0	0	0.07	0	1

* 1 HY-U Wilsons Snipe

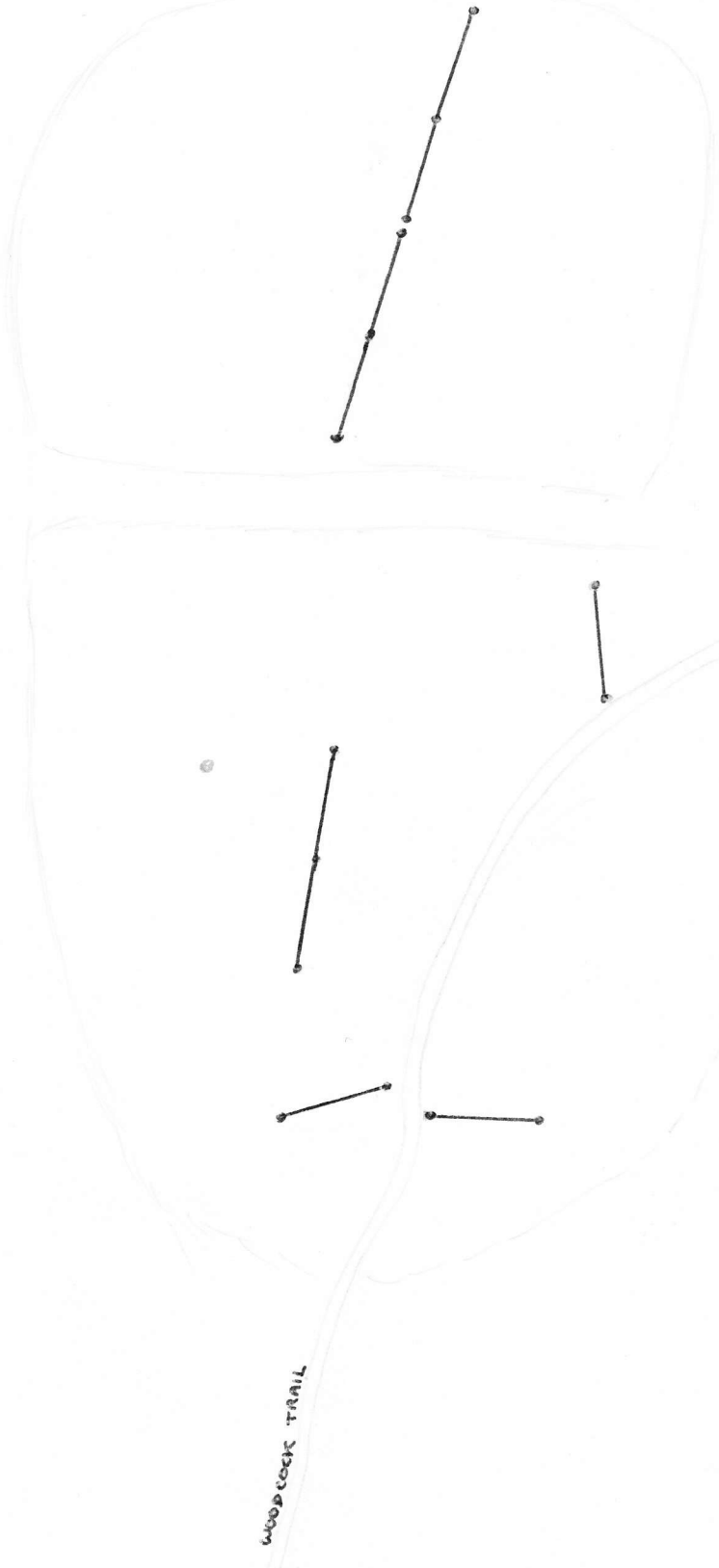
Table : Banding Results

New Birds			Returns		
HY	M	155	SY	M	12
HY	F	122	SY	F	4
HY	?	51	ASY	M	12
SY	M	20	ASY	F	16
SY	F	26			44
ASY	M	18			
ASY	F	29			
AHY	M	1			
AHY	F	1			
		423			

← FIELD 40

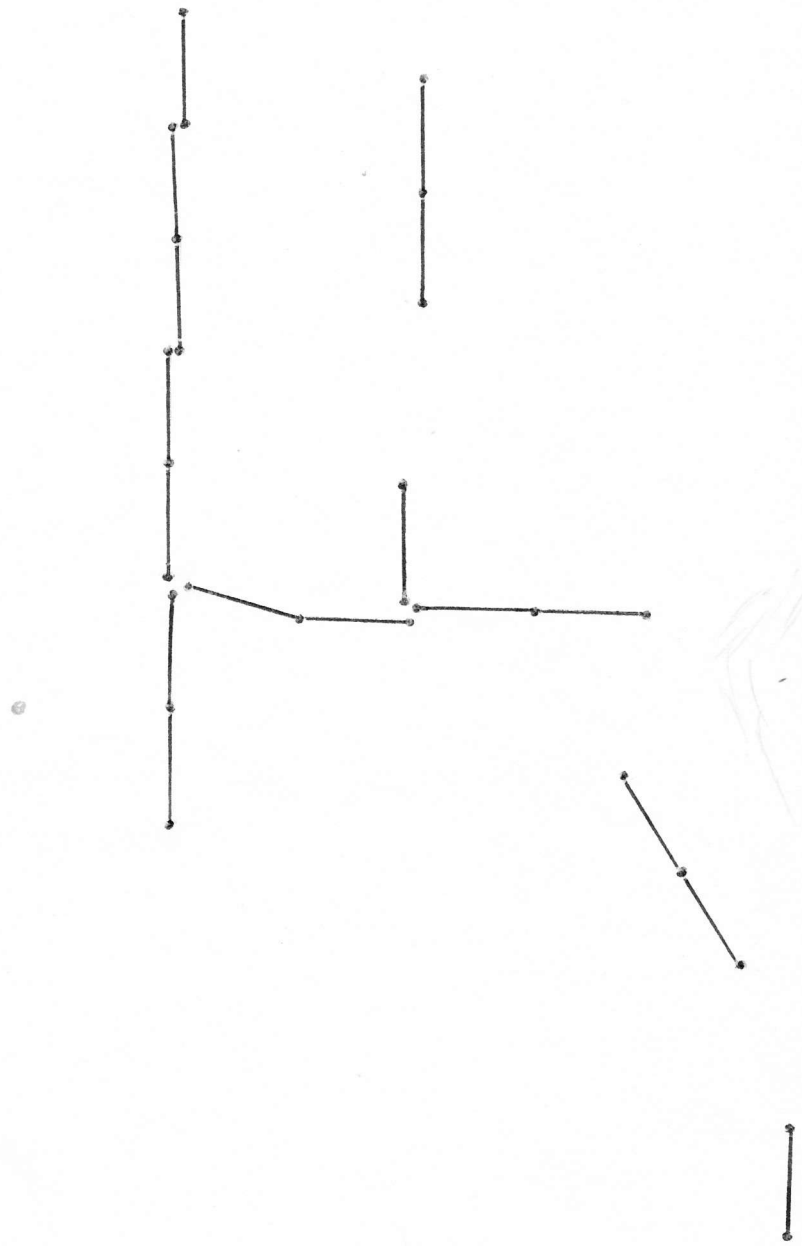
HEADQUARTERS ROAD

MIST NET LOCATIONS - FIELD 39



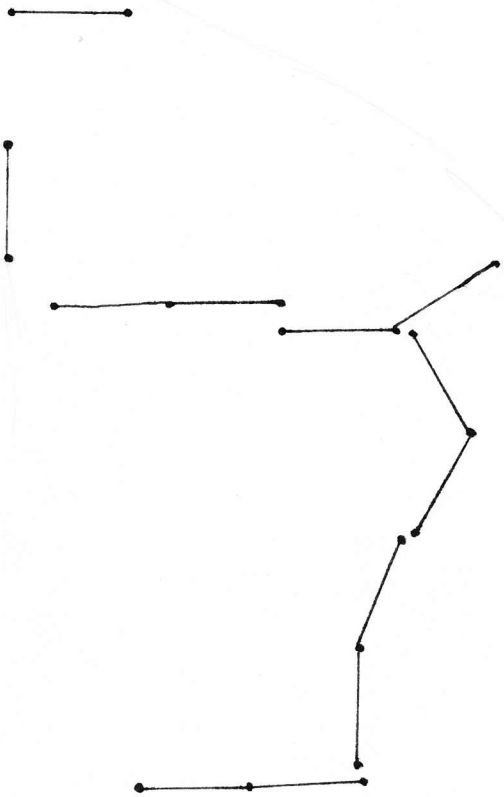
MIST NET LOCATIONS - FIELD 36

MIST NET LOCATIONS - FIELD 11



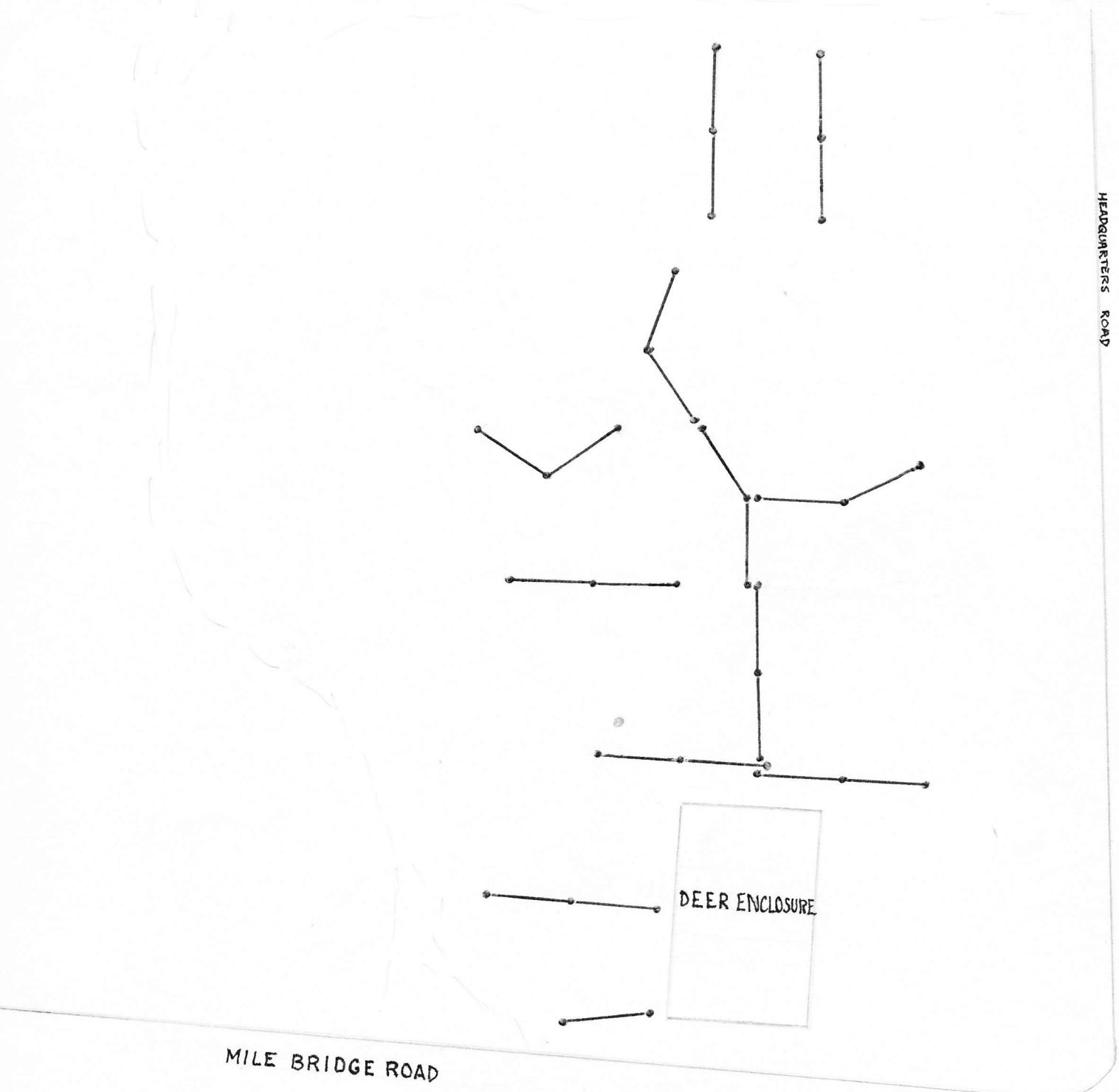
HEADQUARTERS ROAD

MIST NET LOCATIONS - FIELD 10



SOUTH TRAIL

MIST NET LOCATIONS - FIELD 7



MIST NET LOCATIONS - FIELD 1

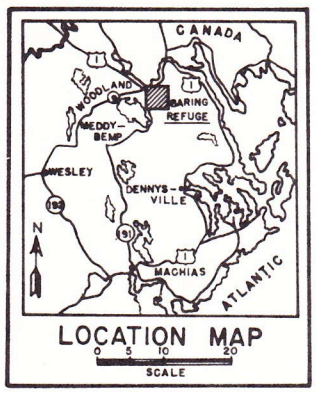
UNITED STATES
DEPARTMENT OF THE INTERIOR

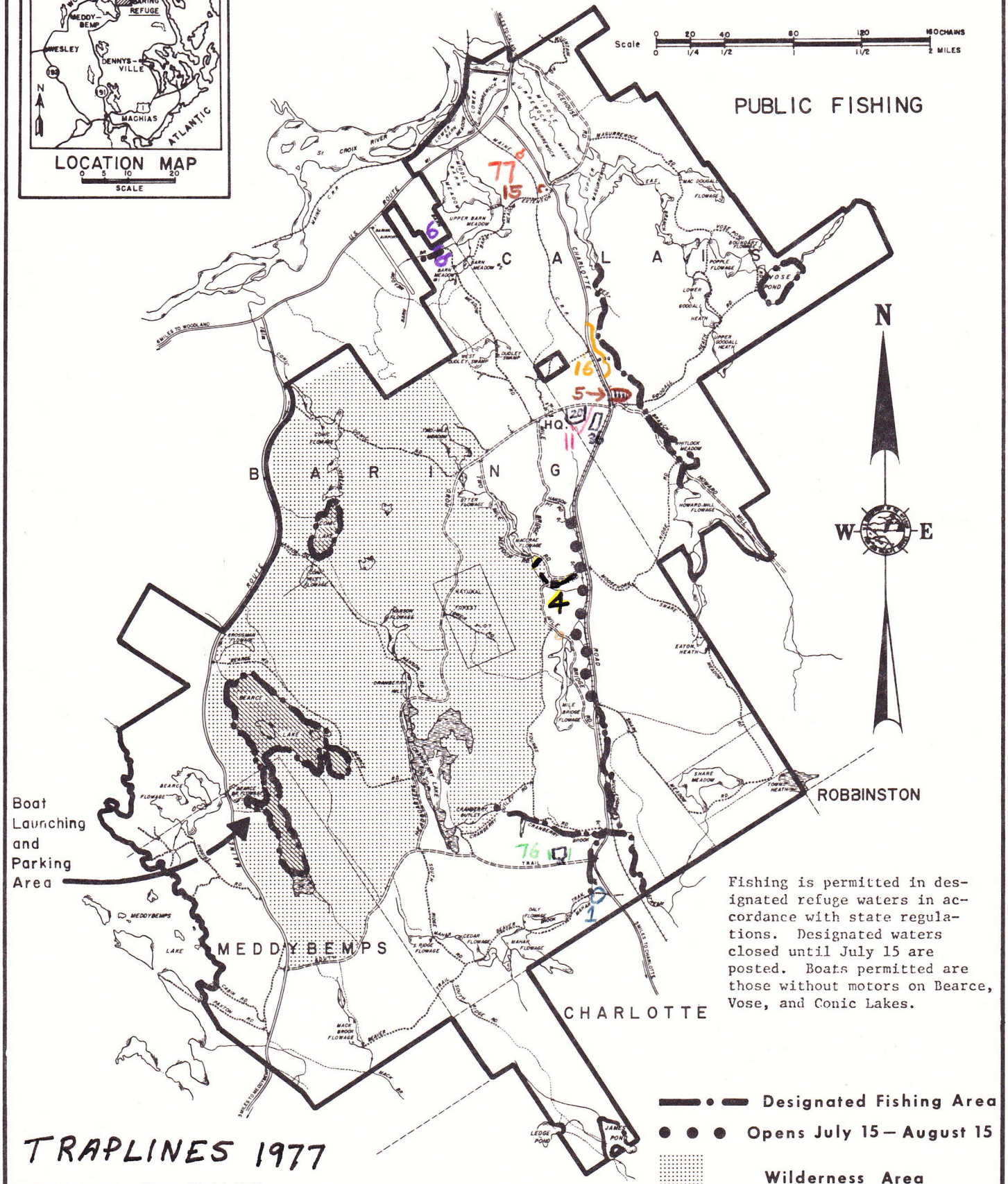
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE

BARING DIVISION

WASHINGTON COUNTY, MAINE





TRAPLINES 1977

JM 670608 Rev. 12/4/75

UNITED STATES
DEPARTMENT OF THE INTERIOR

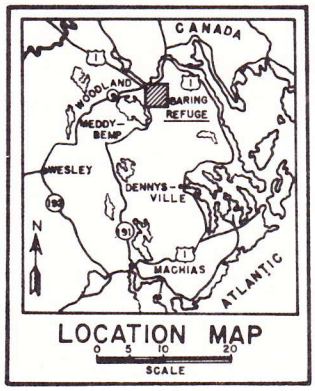
AREAS NIGHTLIGHTED 1977

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE

BARING DIVISION

WASHINGTON COUNTY, MAINE



Scale 0 20 40 80 120 160 CHAINS
0 1/4 1/2 1 1 1/2 2 MILES

PUBLIC FISHING

CALAIS

BARING

HQ.

ROBBINSTON

MEDDYBEMPS

CHARLOTTE

Boat Launching and Parking Area

Fishing is permitted in designated refuge waters in accordance with state regulations. Designated waters closed until July 15 are posted. Boats permitted are those without motors on Bearce, Vose, and Conic Lakes.

MAJOR AREAS

MINOR AREAS

Designated Fishing Area

Opens July 15 — August 15

Wilderness Area

JM 670608 Rev. 12/4/75

UNITED STATES
DEPARTMENT OF THE INTERIOR

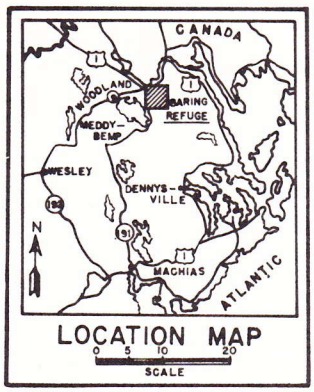
MIST NETTING FIELDS 1977

FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

MOOSEHORN NATIONAL WILDLIFE REFUGE

BARING DIVISION

WASHINGTON COUNTY, MAINE



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MIST NETTING FIELDS

Designated Fishing Area

Opens July 15 — August 15

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Critique of Summer's Work

On the whole we felt that this year's work was very successful and most of what we set out to do was accomplished. Rotating jobs each day broke the monotony of having to do the same task all day long. The work crew hired by Greg Sepik got along extremely well and thus worked well together in the field. We feel that the presence of Tom Dwyer and his technician Scott Owens helped us to get everything accomplished that we set out to do. They worked with us preparing traplines, chainsawing, mistnetting, and running census routes in the spring and then checked traps each morning and helped out with the cuts during the summer months. Their help was greatly appreciated.

Our work meshed well with that of the YCC program. Having them cutting the strips and small cuts rather than large cuts like Field 27 worked out for all concerned. It gave the YCC a feeling of accomplishment and kept moral high. They were extremely helpful in assisting us burning brushpiles. This type of YCC work program should definitely be maintained.

We do feel however that some things could be improved. There is a need for better equipment especially for nightlighting. Better netting for the nets, two quartz iodide lights, and better headlamps would improve nightlighting techniques and efficiency. Also assigning various trapping, mistnetting, and nightlighting tasks in the spring to each individual could help improve efficiency.